# A cross-cultural comparative study of teacher effectiveness: Analyses of award-winning teachers in the United States and China

**Leslie W. Grant · James H. Stronge · Xianxuan Xu**

**Abstract** The purpose of this study was to develop a richer understanding of teacher effectiveness through cross-cultural analyses of the practices and beliefs of selected China and US teachers who have received national awards for their teaching. This study was based upon a phenomenological design that used semi-structured interviews, classroom observations, and artifacts for data generation/collection. Sixteen China teachers and 16 US teachers participated in this study. This study revealed similarities and differences between US teachers and China teachers in their patterns of instructional practices and professional thinking. The major similarities found between them were (a) using a variety of instructional activities which spanned across different cognitive levels, (b) being opportunistic planners to maximize meaningful student learning, (c) having high student engagement, (d) presenting effective classroom management skills, and (e) maintaining a learning environment that was conducive to optimal learning. Primary differences between US and China teachers' classrooms included the types of instructional activities used and their beliefs and practices in the areas of (a) instructional planning, (b) differentiation, (c) assessment, (d) classroom management, (e) relationships with students and parents, and (f) professional development.

**Keywords** Teacher effectiveness · Teacher quality · International comparative case studies · China teachers · Instructional practice

## 1 Introduction

Current political and socio-economic circumstances in both the United States and China demand more competitive human capital and, therefore, sustained investment in and development of human capacity. Perhaps one of the best reflections of a policy

L. W. Grant (✉) · J. H. Stronge · X. Xu
School of Education, The College of William and Mary, P.O. Box 8795, Williamsburg,
VA 23187, USA
e-mail: lwgran@wm.edu

of human capital investment with enormous potential for payback is continuous improvement of educational opportunities of young people as reflected in improved student development and performance (Baker et al. 2002; Chudgar and Luschei 2009). For many years, researchers, policy makers, and educational practitioners in both educational systems have explored the variables that impact student achievement (see, for example, Hattie 2009; Liu 2006). The issue of teacher quality has arisen as the focus of discussion and debate time after time since the classroom teacher is the most influential school-related factor that affects student achievement (Mendro et al. 1998; Muijs and Reynolds 2003). Teacher effectiveness is the pillar of educational policy agendas (Darling-Hammond 2006; OECD 2011). It also mediates the impact that any instruction-related reform or intervention has on student learning (Stronge 2010).

With passage and implementation of *No Child Left Behind*, the United States emphasized the need for states and school districts to ensure ALL students—particularly at-risk students, minority students, and students otherwise disadvantaged—have access to "highly qualified teachers." On other side of the globe, China has undertaken a large-scale nationwide program of curriculum reform since 2001. This school reform is considered to be the most ambitious and far reaching in recent Chinese history (OECD 2011; Sargent 2006). In addition to overhauling objectives and curriculum material content, this reform calls for a paradigm shift in educational philosophy and a corresponding transformation in teaching practices at the classroom level. This is a significant shift from traditional Chinese teacher practices, which focused overwhelmingly on memorization, drill, and prescribed textbooks, to practices that foster individuality, self-expression, inquiry, and creative thinking skills (Cheng 2004). The backdrop of educational reforms in the United States and China, along with the intensified global economic and educational competition, makes this an opportune time to conduct international comparative studies of teacher quality to develop better understandings of this complicated topic (Crossley and Waston 2003; Li 2012). In addition, teaching practice, as a cultural action, occurs in specific cultural settings and also evolves in ways that can reflect the underlying cultural values advocated and nurtured by the wider society (Leung 1995; Li and Shimizu 2009). The US and China—two nations that are drastically different in demographics, history, political systems, and socio-economic status—also differ dramatically in teaching systems and practices.

The primary purpose of this study was to examine selected US and Chinese award-winning teachers to discover similarities and differences in their teaching behaviors and beliefs. This study involved a cross-case analysis of teachers in the United States and China who won national teaching awards. Findings were generated from interviews and observations of the teachers, focusing on the teachers' professional beliefs and patterns of teaching in their respective classrooms. This study addressed the following research questions:

1. What are the similarities and differences between selected award-winning United States and China teachers in their instructional practices?

   (a) What types of instructional activities are used by selected award-winning US and China teachers?
   (b) How are cognitive levels, based on Bloom's revised taxonomy, represented in these teachers' classrooms?

  (c)  To what degree is learning teacher-directed in the classrooms of selected award-winning US teachers and China teachers?
2.  How are selected national award-winning United States and China teachers' classroom practices—other than instructional activities—similar or different (such as their classroom management strategies)?

  (a)  What are the student engagement levels in the classrooms of selected award-winning US teachers and China teachers?
  (b)  What classroom management strategies are implemented by selected award-winning US teachers and China teachers?

3.  What are the similarities and differences in professional thinking between teachers in the US and China?

  (a)  How do these teachers reflect on their practices about their relationships with students and classroom environment?
  (b)  How do these teachers reflect on their practices about instructional planning and instructional strategies?
  (c)  How do these teachers reflect on their practices abut differentiation, and assessment and evaluation of students' learning?

  By examining teacher beliefs and practices through the lens of these research questions, we sought to illuminate the similarities and differences between award-winning teachers in the United States and China, with particular interest in common qualities that emerge across the two cultures.

## 2 Perspectives and frameworks

This study used Stronge's (2007) teacher effectiveness framework, which has strong correlations with teacher quality frameworks developed by Chinese researchers (e.g., Bai 2000; Cui and Wang 2005; Sun 2004). The framework was grounded in a broad review of research that explored qualities of effective teachers. The framework contains the following domains: (1) prerequisites for effective teaching, (2) teacher as a person, (3) classroom management, (4) planning for instruction, (5) implementing instruction, and (6) assessing student progress. This theoretical framework links different parts of this study's design. For example, it guided the generation of interview questions and the selection of appropriate classroom observation instruments. It was also used to generate an a priori set of codes for data analysis, and served as a lens through which to view and interpret data, helping to generate categorical and thematic interpretations.

## 3 Methods

The study was based upon a phenomenological design that used semi-structured interviews, classroom observations, and artifact analysis for data generation, and grounded theory (Strauss and Corbin 1998) for data analysis. This design aimed to compare the instructional practices and beliefs of award-winning teachers in the US and China.

3.1 Research strategy

To investigate teacher practices and perceptions of effectiveness, this study used a phenomenological approach. Phenomenology is a tradition in philosophy that focuses upon the essence of lived experiences. Van Manen (1990) argued that phenomenology examines "the very nature of a phenomenon, for that which makes a some-'thing' what it is—and without which it could not be what it is" (p. 10). Studies using a phenomenological strategy "focus in depth on the meaning of a particular aspect of experience, assuming that through dialogue and reflection, the quintessential meaning of the experience will be revealed" (Rossman and Rallis 2003, p. 97). The purpose of phenomenological inquiry is to understand phenomena in context-specific settings, developing description, interpretation, and reflection upon participants' lived experiences (Hoepfl 1997; Van Manen 1990). In this study, the phenomenon of interest was teacher effectiveness.

3.2 Sample and participant selection

This research study involved a comparative analysis of national award-wining American and Chinese teachers. In order to examine individual teachers' practices and beliefs in depth, while keeping the research manageable in scope, a small, but diverse, sample of effective teachers was drawn. Given this focus, the participants should satisfy a level of scrutiny to be considered representative of excellent teaching in their respective countries.

*Primary criterion for sample selection* A substantial limitation of identifying excellent teachers was, first, how to define excellence and, second, how to find excellent teachers. The researchers chose national award-winning teachers as the operational definition of excellence. Thus, participants were invited based on having received a teaching award from a national organization granting recognition across content areas and grade levels.

Accepting national award-winning teachers as excellent teachers is not a proof-perfect process. It is entirely possible that teachers received awards for reasons other than exhibiting the qualifying criteria of excellence that the researchers adopted. No doubt, many deserving, truly outstanding, teachers were overlooked in the award selection processes. Nonetheless, absent a more perfect method for identifying teacher excellence (e.g., teacher effectiveness indices as measured by teachers' effects on student academic growth), the researchers chose to accept the risk of equating national teacher awards with teacher excellence with verification of teacher effectiveness in the field. This verification was made at the school site through discussions with administrators and examination of student outcome data. In defense of this assumption, all awards that were considered, in both the US and China, have a rigorous vetting process for identifying and determining their award winners. The US awards considered in this study included the Milken National Award, Disney Teacher Award, and National Teachers Hall of Fame. The Chinese award that was used to identify potential participants is the National Teacher Award, bestowed by the Ministry of Education. In both nations, reviews of these major national awards revealed that their criteria included contributions to education, recognition by the

community and use of community resources, being a role model for students and other teachers, innovation in education, professionalism, and excellent teaching practices. Among these criteria, contributions to education and excellent teaching practices are the most commonly cited, so recipients of awards highlighting these criteria were chosen for this study.

*Secondary criterion for sample selection* Maximum variation sampling was used to select participants. Maximum variation sampling "involves selecting cases that illustrate the range of variation in the phenomena to be studied" (Gall et al. 2007, p. 182). In using maximum variation sampling, the researchers selected teachers that vary widely in their years of teaching experience, levels of teaching (e.g., elementary, secondary), content areas, geographic regions (e.g., urban, rural), and gender. In this study, maximum variation sampling served two purposes: to document the range of variation in the selected award-winning teachers; and to determine whether common themes, patterns, and outcomes cut across this variation (Gall et al. 2007; Patton 2002).

For a sample as small as the one used in this study, however, heterogeneity can be a concern because individual cases are so different from each other. Any potentially transferable findings across cases may, therefore, be difficult to apply. However, the maximum variation sampling strategy "turns that apparent weakness into a strength by applying the following logic: Any common patterns that emerge from great variation are of particular interest and value in capturing the core experiences and central, shared dimensions of a setting or phenomenon" (Patton 2002, p. 235).

Sixteen China teachers and 16 US teachers participated this study. Table 1 presents demographic information of the participants by frequency and percentage.

**Table 1** Participant background information

| Item | Category | China frequency (percentage) $N=16$ | United States frequency (percentage) $N=16$ | Total frequency (percentage) $N=32$ |
|---|---|---|---|---|
| Gender | Male | 6 (38) | 3 (23) | 9 (28) |
| | Female | 10 (62) | 13 (76) | 23 (72) |
| Teaching years | <5 | 0 (0) | 0 (0) | 0 (0) |
| | 5–10 | 1 (8) | 6 (38) | 7 (22) |
| | >10 | 15 (94) | 10 (62) | 25 (78) |
| Subject | Math | 5 (31) | 5 (31) | 10 (31) |
| | Science | 4 (25) | 2 (13) | 6 (19) |
| | Language | 7 (44) | 6 (38) | 13 (41) |
| | Social studies | 0 (0) | 2 (13) | 2 (6) |
| | Music | 0 (0) | 1 (6) | 1 (3) |
| Grade level | Elementary | 8 (50) | 10 (62) | 18 (56) |
| | Secondary | 8 (50) | 6 (38) | 14 (44) |
| School | Suburban | 4 (25) | 8 (50) | 12 (38) |
| | Rural | 5 (31) | 3 (19) | 8 (25) |
| | Urban | 7 (44) | 5 (31) | 12 (38) |

### 3.3 Data generation/collection

Given the importance of triangulating data, multiple types of data were generated and collected. Data generation and collection involved 1-day visits to each teacher's school, with 1 h of formal observation, a semi-structured interview, a review of teaching artifacts (e.g., lesson plans, student work, handouts), field notes, and informal observation and conversation.

*Interviews* A field-tested semi-structured interview protocol based on Stronge's framework (2007) of effective teaching was used to elicit participants' reflections on their own practice, exploring subjective experiences of the teaching profession. Each interview lasted between 45 and 90 min, depending on the lengths of participants' responses. Interview data were generated until data saturation was reached—when emerging categories or relevant themes began to be repetitive (Gall et al. 2007). In addition, member checking was implemented during the interviews (Gall et al. 2007). The researchers reflected participants' comments back to them to check the understanding of their perceptions of teacher effectiveness. The pre-determined questions for the semi-structured interview protocol were linked to the six categories of teacher qualities identified in Stronge's framework (2007). Follow-up questions were asked to encourage participants' deeper thinking on ideas and issues that emerged during the interview (Kvale 1999). Conducting semi-structured interviews enabled the researchers to enter interview settings with pre-designed questions in mind to ensure that the conversations covered key areas of the research focus, as well as allowing the researchers to generate questions during the interview based on informants' responses. In this way, the semi-structured interview format could allow for some standardization, which was useful in across-participant analysis (Kvale 1999). Simultaneously, the open-ended format and use of follow-up question could elicit aspects of teachers' experiences about effectiveness, including those not previously conceived by the researchers.

*Observations* Participants were observed within their authentic teaching environment. The Differentiated Classroom Observation Scale (Cassady et al. 2004) was used as the instrument for collecting observation data. The standard observation protocol enabled the observer to record several data points at 5-min intervals: (a) instructional activities employed, (b) percentage of students engaged, (c) director of the activity, and (d) levels of cognitive demand. Using this scale, all instructional activities employed within each 5-min interval were recorded during each formal observation, using a set of codes provided with the protocol (e.g., lecture, teacher questioning, student response, independent seat work, group discussion, assessment activity, etc.). The researchers also assessed the extent to which levels of conceptual difficulty were evident within each interval, using the revised version of Bloom's cognitive taxonomy—knowledge, comprehension, application, analysis, evaluation, and creation (Anderson and Krathwohl 2001). Each of the six cognitive levels was rated on a three-point scale: "1"—not evident, "2"—evident, and "3"—well-represented. Two other two data points also were rated within each 5-min segment. "Student engagement" was recorded based on noting the percentage of students who were on-task engaged at each pre-determined point of time within the

observation interval (e.g., at the beginning of third minute in each 5-min interval). Student engagement was rated on a three-point scale: "1"—low engagement (20 % of fewer of students engaged in learning), "2"—moderate engagement (21–79 % of students engaged in learning), and "3"—high engagement (80 % or more students engaged in learning). "Learning director" was recorded as a general observation across the interval. It was scored on a scale that has five points: "1"—teacher directs all learning, "2"—teacher directs most learning, "3"—teacher and students share learning decisions, "4"—student directs most learning, and "5"—student directs all learning.

Since a standardized observation form might not include all variables the observers would like to observe, the researchers kept field notes to document contextual information and specific aspects of teachers' behaviors that were not captured by the observation form (Denzin 1989; Gall et al. 2007; Merriam 1998).

*Artifacts* Artifacts that were examined included lesson plans, student workbook, handouts, and blackboard/computer displays. The participants were given opportunities to share their perceptions about the artifacts during interviews.

### 3.4 Data analysis

*Descriptive statistics* Once the observation data of teaching practices were collected, they were summarized to provide a meaningful representation of what happened in the observed classrooms. The data from form-based, in-class observations were analyzed using descriptive statistics, with a particular focus on describing what American and Chinese award-winning teachers do similarly and differently. Descriptive statistics included means and frequency counts.

*Grounded theory analysis* The data generated with one-to-one interviews were recorded and transcribed verbatim and were examined using grounded theory. Essentially, grounded theory is an emergent categorizing strategy which codes and sorts data into appropriate categories through successive but flexible levels of data analysis and conceptual development (Charmaz 2008; Erlandson et al. 1993; Rossman and Rallis 2003). Grounded theory offers a framework of coding procedures, which serve as "analytical tools for handling masses of raw data" and to "help provide some standardization and rigor" to the process of data analysis (Strauss and Corbin 1998, p. 13). These coding procedures include open coding, axial coding, and selective coding.

First, a priori codes were established before the data were analyzed, based on Stronge's (2007) model of teacher effectiveness. These codes supplied the framework to facilitate initial understanding. The researchers transcribed the interview, read interview data carefully, and divided them into segments. Each segment was a meaningful whole, dealing with one aspect of the phenomenon of interest. The segments were examined, compared with each other, and labeled with initial code names. Then, the researchers used axial coding to organize the initial codes into categories and subcategories based on their properties and dimensions as discovered in the data. Finally, selective coding was used to formulate "a logical, systematic, and explanatory scheme" (Strauss and Corbin 1998, p. 21). At the stage of selective coding, the researchers determined the most salient and important categories, formulated a model that best

represents how those categories were related, and used the themes that emerged from that analysis to reassemble the data so as to answer proposed research questions and provided illustrations of the study's results.

Grounded theory analysis was able to uncover the underlying meanings hidden in the pages of interview transcripts. It enabled the researchers to conduct a thorough coding of the data and moved the researchers from descriptive to more theoretical levels as they represented and interpreted participants' perspectives on teacher effectiveness. The data generated through interviews were broken down, compared, conceptualized, and examined closely so that constructs, themes, and patterns could be identified to capture the fullness of the practices and beliefs of teacher effectiveness being studied. Table 2 indicates the major data sources that were used to answer each of the research questions noted above.

## 4 Findings

### 4.1 Instructional activities used (research question 1a)

All instructional activities were recorded in 5-min segments using codes established by the Differentiated Classroom Observation Scale. A total of 134 segments were observed in US classrooms, and 118 segments were observed in China classrooms. The length of observations were comparable between China teachers and US teachers, with the mean length of Chinese classroom observations being 7.4 segments (52 min) and the US classroom observations being 8.4 segments (59 min). According to the data shown in Table 3, the China teachers used, on average, 10.07 different instructional activities during an entire observation. United States teachers used, on average, 9.06 different instructional activities during an entire observation. Thus,

**Table 2** Alignment of research questions to data collection/generation and analysis

| Research question | Data collection/generation | Data analysis |
|---|---|---|
| 1 a) Types of instructional activities | Classroom observation | Descriptive statistics |
|  | Interviews | Grounded theory |
| 1 b) Cognitive levels | Classroom observation | Descriptive statistics |
|  | Field notes | Holistic coding |
| 1 c) Teacher versus student director | Classroom observation | Descriptive statistics |
| 2 a) Student engagement levels | Classroom observation | Descriptive statistics |
| 2 b) Classroom management strategies | Classroom observation | Descriptive statistics |
|  | Field notes | Holistic coding |
|  | Interview | Grounded theory |
| 3 a) Reflection on practices | Interview | Grounded theory |
|  | Field notes | Holistic coding |
|  | Artifacts | Holistic coding |
| 3 b) Perceived reasons for winning awards | Interview | Grounded theory |

**Table 3** Results from the differentiated classroom observation scale, number of instruction activities, by country

|  | China teachers | | United States teachers | |
| --- | --- | --- | --- | --- |
|  | M | Range | M | Range |
| Number of instructional activities per classroom observation | 10.07 | 7–12 | 9.06 | 6–13 |

there were only very minor differences noted in the number of activities per lesson between the teachers in the two countries.

Table 4 shows the instructional activities most used by China teachers, with a comparison of how frequently those activities were used in United States teachers' classrooms, as shown by (1) the percentage of teachers who used the instructional activity and (2) the percentage of overall observation segments in which the instructional activity was used. The latter were analyzed by determining the average use of the instructional strategies across all observed 5-min observation segments. As indicated in Table 4, China teachers most often used questioning, student responding, lecture, technology use (by the teacher), lecture with discussion, and students working individually. Comparatively, United States teachers also used these instructional strategies but to a lesser degree. It is interesting to note that although 100 % of China teachers used lecture (as shown in Table 4), lecture was used in 81 % of observation segments. In addition, lectures were typically short with follow-up instructional activities such as student responding and students working individually or with groups.

Table 5 presents the instructional activities most used by United States teachers, in comparison to China teachers' classroom. The United States teachers most frequently used student responding, questioning, teacher interacting with student and group, technology use (by the teacher), and lecture.

## 4.2 Cognitive levels evident (research question 1b)

Within each 5-min observation segment, the researchers noted whether each cognitive level of the revised Bloom's Taxonomy was (1) not evident, (2) evident, or (3)

**Table 4** Most used instructional activities by China teachers, compared with United States teachers

| Instructional activity | China teachers | | United States teachers | |
| --- | --- | --- | --- | --- |
|  | Percentage of teachers | Percentage of observation segments | Percentage of teachers | Percentage of observation segments |
| Questioning | 100 | 84 | 100 | 62 |
| Student responding | 100 | 83 | 100 | 64 |
| Lecture | 100 | 82 | 54 | 17 |
| Technology use—teacher | 58 | 40 | 46 | 17 |
| Lecture with discussion | 58 | 30 | 46 | 11 |
| Student working individually | 83 | 29 | 54 | 16 |

**Table 5** Most used instructional activities by United States teachers, compared with China teachers

| Instructional activity | United States teachers | | China teachers | |
|---|---|---|---|---|
| | Percentage of teachers | Percentage of observation segments | Percentage of teachers | Percentage of observation segments |
| Student responding | 100 | 64 | 100 | 83 |
| Questioning | 100 | 62 | 100 | 84 |
| Teacher interacting with individual student | 69 | 24 | 50 | 8 |
| Teacher interacting with small group | 62 | 24 | 25 | 4 |
| Technology use—teacher | 46 | 17 | 58 | 40 |
| Lecture | 54 | 17 | 100 | 82 |

well-represented. Table 6 and Fig. 1 demonstrate the mean representation of each cognitive level across observations for China teachers and U.S. teachers. The cognitive levels of Knowledge, Comprehension, Application, and Analysis all were documented as *evident* and *well-represented* for both countries. Evaluation and Creation ranged from *not evident* to *evident*, indicating that students were occasionally engaged in higher levels of thinking, but not consistently or with the same frequency as lower cognitive levels. The cognitive level most evident, in both US teachers' and China teachers' classrooms, was Comprehension. In addition, observed teachers in the United States tended to engage their students in Analysis at an equivalent level as their counterparts in China. However, more complex tasks of Evaluation and Creation were slightly more evident in the US classrooms.

4.3 Director of learning (research question 1c)

The researchers noted the degree of teacher direction in the classroom, based on a continuum of (1) to (5). A (1) indicated that the teacher directs all learning and (5) indicated that students direct all the learning. The observational data revealed that China teachers and United States teachers, to a large extent, directed the learning. Teacher versus student director of learning was rated on a five-point Likert scale on a continuum

**Table 6** Mean cognitive levels of instructional activities, by country

| Cognitive level | China teachers | United States teachers |
|---|---|---|
| Knowledge | 2.34 | 2.37 |
| Comprehension | 2.59 | 2.39 |
| Application | 2.24 | 2.43 |
| Analysis | 2.37 | 2.20 |
| Evaluation | 1.39 | 1.63 |
| Creation | 1.18 | 1.45 |

During each observation segment, cognitive levels were noted as being (1) not evident, (2) evident, or (3) highly evident
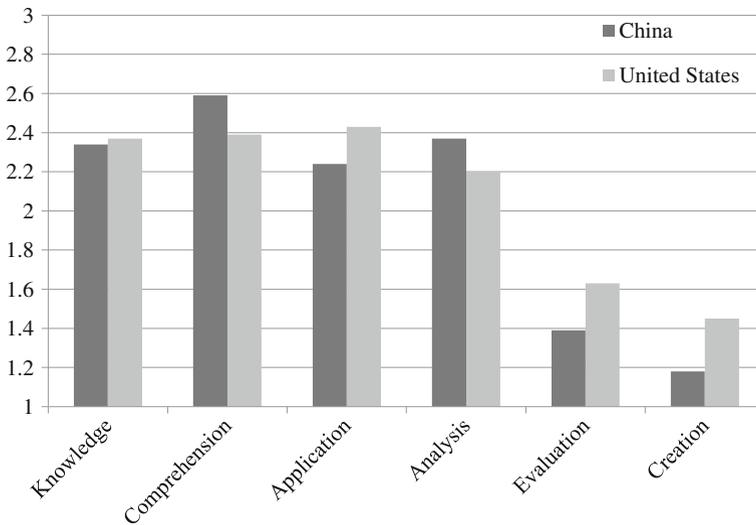
Fig. 1 Cognitive levels of instructional activities, by country

of (1) the teacher directs all learning to (5) the student directs all learning. China teachers had a mean rating of 1.59 and United States teachers had a mean rating of 1.73.

4.4 Student engagement (research question 2a)

To record student engagement, the observer scanned the room at certain point of time within each 5-min segment and recorded whether engagement was low (1), medium (2), or high (3). For both China and United States teachers, student engagement was high. Students in the China teachers' classrooms were engaged in lessons with a mean of 2.86 across teachers. In the United States, student engagement level has a mean of 2.62 across teachers.

4.5 Classroom management strategies (research question 2b)

Both observational data and interview data indicated that China and US teachers' classroom management was characterized by consistent monitoring of student behavior, efficient pacing of class activities, smooth transition between activities, and well-established classroom routines and procedures for daily tasks. The teachers were observed to use proximity or movement around the classrooms to address trouble spots and encourage attention (McLeod et al. 2003). It was observed that these award-winning teachers had a high level of "with-it-ness"—an alternative term for effective classroom management, which refers to a heightened awareness of the surroundings, all actions and activities in the classroom, the student's particular learning situation and needs, and the history of the student's behavior (LePage et al. 2005; Wang et al. 1993).

4.6 Teacher reflection on practice (research question 3)

Seven major themes emerged. These themes were further classified into three major categories. Furthermore, subthemes emerged within several of the major themes. The categories and key themes are listed in Table 7.

**Table 7**  Major categories and themes in professional thinking

| Categories | Themes |
| --- | --- |
| Practices and habits of mind in teaching | •Planning based the curriculum, textbooks, and student learning needs |
| | •Variation and flexibility in planning and instruction |
| | •Differentiation and attention to group and individual differences |
| | •Maintaining a classroom environment that is safe, fun, and intellectually stimulating |
| | •Assessing student learning and self-evaluate the success of teaching |
| Development as a professional | •Personal and professional growth and change |
| | •Use of reflection |
| Relationships | •Relationships with students and parents |

The findings revealed cross-system similarities and differences on each key theme. These findings indicated that there are certain practices and beliefs formed similarly across different cultures, and some distinctive teaching practices are shaped and nurtured in specific cultures and educational systems. Table 8 summarizes the major similarities and differences found in this study between the China award-winning teachers and US award-winning teachers, and interpretations for the differences. The next section focuses on the qualitative findings related to the Practices and Habits of Mind in Teaching category and major themes within the categories.

## 5 Discussion

This cross-cultural comparative study explored patterns of teaching and reflections of teachers who received national-level award for teaching in the United States and China. The US and China teachers in this study shared several similarities. Teachers in both countries used a wide variety of instructional activities across different cognitive levels. In addition, classrooms were characterized as having high student engagement, with a majority of learning activities directed by the teacher. United States and China teachers were opportunistic in that instruction would change based on student responses to the lesson. The teachers used a wide variety of assessment strategies to monitor student learning and they maintained a safe, fun, and intellectually stimulating learning environment.

These similarities indicated that certain characteristics of exemplary teachers are shared by the cultures in both China and the United States. Classroom observations and interviews also revealed that the classroom practices and professional thinking of China and United States teachers were unique in various ways. The themes (within the Practices and Habits of Mind in Teaching category), where these two groups varied, may be worth further discussion, including (a) instructional planning, (b) instructional delivery, (c) classroom management, and (d) differentiation. Each of these themes will be explored, in turn.

**Table 8** A summary of similarities and differences between China and US award-winning teachers, and relevant interpretations

| Themes | Similarities between China and US teachers | Differences between China and US teachers | Explanations for such differences |
|---|---|---|---|
| Instructional planning | •Planning based on the curriculum, textbooks, and student learning needs | China teachers:<br>•Anticipated students' misconceptions while planning | •Training emphasis on understanding student learning (including student misconceptions) in China |
| | •Using mental planning process | •Followed the textbook and the teacher reference book closely, both of which were developed by the Ministry of Education or provincial Education Department | Structural differences (i.e., trade-off of large class size—less work load and more time for planning in China) |
| | •Allowing lessons to follow a different path | •Framed lesson plans around three key terms (i.e., knowledge points, key points, and difficult points) | Philosophy of U.S. and China educational culture (individualism versus collectivism; the tradition of focusing on textbook in China education history) |
| | | •Invested more time in planning and collaborative planning | |
| | | US teachers | |
| | | •Had more autonomy and creativity in instructional planning | |
| | | •Incorporated assessment of student learning in planning (backward planning) | |
| Variation and flexibility in planning and instruction | •Opportunistic<br>•Pattern recognition capabilities | N/A | N/A |
| Differentiation | Referring to student learning preferences and modalities | •US teachers developed multiple paths of instruction (i.e., differentiated curriculum, learning materials, and learning activities), while the differentiation was limited to tiered questioning and homework in China classrooms | •Structural difference (e.g., different class size) |
| | | •Whole-group lecture was the dominant instructional strategy used by China teachers | •High density ofcurriculum content in China educational system |
| | | | •Perceived belief that students are similar in ability among China teachers |
| | | | •Philosophy of US and China educational culture (individualism versus collectivism) |

**Table 8** (continued)

| Themes | Similarities between China and US teachers | Differences between China and US teachers | Explanations for such differences |
|---|---|---|---|
| | | | •Different training emphasis in China and US educational systems |
| Classroom learning environment | Maintaining a classroom environment that is safe, fun, and intellectually stimulating | •US teachers had more flexibility in using the physical space in their classrooms to serve instructional purposes<br><br>China teachers placed more emphasis on control, power, and authority | •Structural difference (e.g., different class size, different tradition in classroom arrangement)<br><br>•Cultural beliefs (transfer of filial piety in Chinese Confucian culture to classroom) |
| Assessing student learning and self-evaluation of the success of teaching | Using a variety of assessment strategies to monitor student progress | •China teachers valued more homework through addressing student error to whole class and using homework as re-teaching opportunities<br><br>•US teachers emphasized more authentic assessment | Different beliefs about homework |
| Personal and professional growth and change | Pattern of professional growth (from novice to expert) | Collaborative professional development was more institutionalized in China (school-level teacher research group and grade-level lesson preparation groups) | •Philosophy of US and China educational culture (e.g., individualism versus collectivism)<br><br>•Different training emphasis |
| Use of reflection | Continuously practicing self-evaluation and self-critique for professional growth | N/A | N/A |
| Relationships with students and parents | Caring, warm, and positiverelationships with students | China teachers had more personal and family-like relationships with students and parents, while the relationships between the US teachers and students/parents were more professional and community-based | •Philosophy of US and China educational culture (e.g., teachers are moral models in China)<br><br>•High social status of teachers in China and high parental involvement in and commitment to the education of children |

## 5.1 Instructional planning

While planning instruction, both China teachers and US teachers tended to emphasize the alignment between curriculum standards and instruction, while US teachers went further to incorporate the assessment of learning in their planning process. China

teachers stressed more that they developed and tested hypotheses about student learning difficulties, and they anticipated students' misconceptions while planning. In addition, they identified "key points" and "difficult points" in their planning process for each lesson. In contrast, US teachers had more autonomy in planning, and they valued such self-governance. They had more flexibility in designing the units, lesson, and assigning timelines based on the needs, strengths, and interests of the students.

This study found that the teachers in China and the United States used curriculum materials differently to plan for classroom teaching. In China, textbooks and teachers' manuals played an essential role in teachers' work and served as a primary source of subject matter and pedagogical knowledge (Fan and Gurcharn 2000). These materials, carefully developed by the Ministry of Education, not only prescribed the learning standards and curriculum but also prescribed lessons. This confirmed what Fang and Gopinathan (2009) noticed—most East Asian countries rooted in Confucian heritage culture attach great importance to texts. One of the advantages of such top-down mandates is to make the alignment among curriculum, instruction, and assessment more feasible. Furthermore, all the China teachers were in collaborative groups and the pressure to keep up with the pacing of peer classrooms seemed to deprive the teachers of their flexibility and autonomy. Such a strict pacing mandated a fixed amount of time each day in which formal instruction of certain lesson or concepts could occur. In comparison, the teachers in the United States enjoyed more flexibility and autonomy regarding pacing, learning materials selection, and content goals, as long as they were in alignment with overall curriculum and standards. However, it was found that the selected award-winning teachers were thriving within their constraints—they were adept at not only meeting the requirements for the coverage of content and the prescriptive pacing but also using curriculum guidance to scaffold based on student ability and progress. The textbooks and reference books seemed to free up more time for these teachers to look more attentively at their student learning and consider how to deliver each lesson more effectively.

It was noted that the China teachers' lesson plan were organized around "knowledge points," "key points," and "difficult points." Identifying each of these areas for each lesson required the teachers to be knowledgeable about the framework of learning objectives and be sensitive to student learning and difficulty of the content. The observation of this study confirmed that China teachers used frequent questioning as a strategy of scaffolding to diagnose student learning needs on specific learning areas and adapt their teaching strategies so as to conform to the evolving learning level of the students. In comparison, the observed teachers in the United States valued their autonomy in making decisions about teaching materials. The state-mandated curricula in the United States usually do not specify the lessons that take place in the classroom; therefore, the teachers has more freedom to sequence units and lessons in their own ways, and to develop appropriate timelines for the completion of these plans. They also have more choices and flexibility in selecting instructional materials and resources. The literature in the United States elaborated that autonomy is crucial for teaching be identified as a profession and teachers be regarded as professionals. In addition, it is a critical component for teacher growth and career satisfaction (Conley et al. 2005; Johnson 1990; Mangin 2005). Alexander (2002) argued that US teachers value independence and individualism and their decision-making autonomy over schedule, curriculum, and classroom management (Alexander 2002).

Team planning was another important subtheme that emerged in the findings regarding China teachers. Teachers who taught the same subject and the same grade level usually grouped together to study the curriculum, textbooks, and teacher reference books. Such collaboration allowed them to see the curriculum in its entirety and avoid over-emphasizing one area of content at the expense of others (Chan and Rao 2010). Stigler and Stevenson (1991) had long before observed that teachers in China have a tradition of planning together and observing each other's lessons, fostered by a culture that values collegiality over individualism. Such a culture and habit of collaboration has enabled teachers to pull together teaching ideas and resources. Literature also noted that China teachers have relatively lighter workloads than their US peers due to large class sizes and different scheduling methods, thereby having more time for collaborative or individual planning. As mentioned earlier, the teachers in China are usually assigned to school office rooms by subject matter and grade level. Often their office desks are grouped together to organize a group workplace. This physical proximity facilitates collective learning and promotes teachers' engagement in conversations of their daily practices (Fang et al. 2003). This workplace culture allows teachers to refine their craft of teaching together and engage in continuous improvement of planning and teaching (Fang and Gopinathan 2009; Paine 1990).

Another difference in instructional planning was related to the structural differences between the educational systems in China and the US. One of the tradeoffs of large class sizes in China is less workload in terms of number of courses taught per week by teachers, thereby generating more time for planning or collaborative planning. The schedule of schools in China established that the lessons are of short sessions (45–50 min each session) and each teacher teaches only one subject area, but multiple times to multiple classes. The typical teacher in China teaches 12–16 lessons each week. However, in the US, the typical teacher contract requires teachers to spend up to 32 h per week at school or a little over 6 h per day (Drago et al. 1999). Of that time, teachers typically allocate 1 h to planning and the remaining 5 h for classroom instruction (Kennedy 2010). The ratio of planning time to instructional time is around 1:6. In other words, there are around 10 min available to plan for an hour's instruction. The US teacher planning time is sparse, particularly at the elementary level where classroom teachers usually teach multiple subjects—reading, mathematics, science, and social studies. Moreover, this "1 hour" is also the only official time for classroom teachers to correct student work, diagnose students' learning processes, communicate with parents or special education teachers or school counselors, and complete paperwork which may or may not be related to classroom instruction. In China, the ratio of planning time to instructional time would be 2:1 typically (Kennedy 2010). In addition, the centralized curriculum and the philosophy of collectivism in Chinese culture provide favorable conditions for collaboration in instructional planning.

## 5.2 Instructional delivery

Although the observation data revealed that both US teachers and China teachers used various instructional activities in classrooms, they presented different patterns regarding what specific teaching activities to use. The most frequently used activities

of China teachers were questioning, student responding, lecture, technology use by teacher, lecture with discussion, and student working individually. Comparatively, the US teacher most frequently used student responding, questioning, teacher interacting with individual student and group, technology use by teacher. Although questioning and student responding were the most frequently used strategies in both nations, they occurred in strikingly different patterns. In China classrooms, they were attached to lecture and mixed with lecture, while in US classrooms, there was no such connection.

It is noticeable that the instruction in China was more whole group teacher-centered. Lecture was the prevailing instructional strategy observed in China classrooms. China teachers' teaching was carefully scripted and structured. The observation of their instruction indicated that the strategy of lecture has the advantage of covering a large amount of content within a limited amount of time. Every task or concept is taught and demonstrated by the teacher. The teachers maintained a central role during the instruction and minimized the amount of non-academic tasks. The continuous scaffolding provided by the teacher gave the children a sense of accomplishment that motivated them to stay engaged and seek further knowledge (Joyce et al. 2004). Comparatively, the US teachers provided student-centered learning opportunities for students to explore. They allowed more time for their students to observe and question phenomena, and pose or revise explanations by themselves, rather than feeding them with knowledge. By comparison, the US teachers tended to use activities that allowed them to interact with students in small groups or individually. Additionally, during the interview, the US teachers reflected more about how to involve students in authentic learning experiences within a specific content area, while none of the China teachers reflected on this issue. This finding was supported by an earlier study which found that US teachers perceived that the goal of instruction was to teach students how to solve problems in the real world, and believe that teaching content in real-life situations and connecting it to concrete models is an important instructional approach (An et al. 2002). Contradictorily, China teachers may emphasize teaching students learning methods and the ability to transfer learning to the real world, while they seldom incorporate concrete models into their own teaching.

It was found that questioning and student responding were the most frequently used instructional strategies in both China and US classrooms, with China teachers using them in about 80 % of the overall observational time and the US teachers using them in 60 % of the observational time. These teachers used questions and student responses to elicit and interpret students' ideas and to understand what students found confusing or difficult. They promptly provided alternative explanations, models, and procedures to represent core concepts. In this dynamic interaction, the teachers created responsive and flexible instruction by bringing together their knowledge of the explanatory frameworks that organize and connect ideas, and their knowledge of their students to make adjustments in accordance with what happens. This skill of listening to what students say and constructing appropriate adaptive responses on a moment to moment basis is exemplary demonstration of teaching expertise (Feiman-Nemser 2001).

The lectures that occurred in the China teachers' classrooms often were mixed with questioning, students responding, and scaffolding. The lectures also were

attached to many other major instructional strategies used by the observed teachers, such as technology use (i.e., use PowerPoint slides to present textbook content) and engaging students in seatwork (i.e., student study textbooks individually or in small groups). However, no such connection was observed in the US classrooms. In the US classrooms, learning activities were much more student-centered, with the teachers acting as facilitators and students actively participating in individual or group work that fostered problem-solving. The individualism in Western culture suggests that learning is optimal when student self-expression is exploited and when students are engaged in exploration themselves.

The different roles played by textbook-based lecture in the instruction of China and US classrooms can be explained, at least partially, by the different beliefs about learning held by the teachers in these two nations. In the West, educators believe in learning through exploring. Learners learn best when they start with exploring, then move to the understanding of concepts and development of skills. Educators in China believe in understanding the content first and then in creative exploration of the learned concepts (Briggs 1996). In China classrooms, teacher lecture not only involved conveying information to students but also stimulated higher-order thinking skills. The representation of comprehension, application, and analysis during China teachers' instruction was not significantly lower than that of the US teachers' whose instruction was more student-centered. Within whole group instruction, the students in China seemed to learn through memorization or structured practices, thus engaging in lower-order cognitive learning. However, the students' learning was scaffolded to learn the underlying concepts and apply them to various new examples.

The findings of the study support earlier studies that examined instructional practices in mathematics in Mainland China, Hong Kong, USA, and other high-achieving educational systems (Hiebert et al. 2003; Huang and Leung 2004). These studies also found the salient features of classrooms in Confucian culture is the dominance of the teacher in the teaching and learning process; however, high-quality teaching and learning and active student engagement still take place in a teacher-controlled classroom, even where the class size is large. The overrepresentation of whole class direct instruction or lecture in the China's exemplary classrooms seems to be counterintuitive based on Western mainstream thinking of quality instruction. Critics of lecture believe lecture rests on the assumption that students are passive receivers in the process of learning and it is associated with learning at low cognitive levels based on Bloom's taxonomy. Nevertheless, the empirical research has consistently indicated that direct instruction is one of the most effective strategies in producing high student learning outcomes across subject areas (Kroesbergen and Liut 2004; Rosenshine 1995; Schwerdt and Wuppemann 2009; Stevens et al. 1991), across grade levels (Schwerdt and Wuppemann 2009; Upadhyay and DeFranco 2008), across students with different learning abilities (Algozzine and Engelmann 1986; Rosenshine and Stevens 1986), and across students with different socioeconomic backgrounds (Rosenshine 1995

The instruction of China teachers was found to be more structured than US teachers. The sequences of instruction of China teachers were uniform across classes (also across subject areas and grade levels), while the sequences in US teachers' instruction varied from classroom to classroom. China teachers usually start their lesson with a review of the content from the last lesson, then present new learning

content. Then they would present more variations of key concepts and have students engaged in structured practices. At the end of lesson, they assigned homework to reinforce student learning. Each lesson was about 45–50 min. As earlier research found, the instruction in China classrooms is characterized by density and fast pacing. A well-known international study by Stevenson and Stigler (1992) reviewed more than 800 h of classroom observations in Asia, including some China areas. The researchers reported that they were struck by the structured and interconnected activities used by the teachers there toward specific learning objectives from lesson to lesson. They stated that the lessons were marked by "coherence" and "a consistent theme" (p. 177). In contrast, the teachers in the US often cover multiple topics in their instruction and integrate them or shift between them.

Literature has well documented the so-called East Asian learner paradox: lecture and seemingly surface learning lead to high academic achievement. Observers of East Asian classrooms share a common impression—large class size with students sitting in rows of desks facing the teacher and the teacher leading nearly all the classroom activities and doing most of the talking to reticent students (Fang and Gopinathan 2009; Huang and Leung 2004; Paine 1990; Parke et al. 2006). Whole class instruction is the prevailing strategy to teach, and the teacher is perceived as the "purveyor of authoritarian information" (Stevenson and Stigler 1992, p. 18) transmitting knowledge to students, who act as passive recipients, through repetitive and rote memorization. These characteristics of the China classrooms are in sharp contrast to what is found to be conducive to student learning in Western academics. Yet in large-scale international tests, students from this type of learning environment performed consistently better than students in most Western countries (OECD 2011; Stevenson and Stigler 1992). Various researchers have observed that apparently teacher-centered classrooms and large classes may not necessarily translate into passive learning or learning of low cognitive levels (Chan and Rao 2010). Chinese learners may be not as expressive as Western learners, but they actively listen and respond to teacher's instruction (Cortazzi and Jin 2001; Li 2012). The findings of this study confirmed that the teacher control and lecture in China classrooms are not without virtues; actually, they had some laudable advantages.

## 5.3 Differentiation

The China teachers and US teachers differed in their practices of differentiation. China teachers found it more challenging to differentiate their teaching due to large class size, pressure from an examination-driven education system, and limited instructional time. The observation data further supported this finding by indicating their instruction primarily involved whole-group instruction. By comparison, the US teachers involved students in different activities individually or in groups at different paces. Compared with the China teachers, they also interacted more with students in small groups or individually to provide guidance and feedback.

The observations indicated that the students in the US were often grouped to work on different tasks at different paces. During the interviews, the US teachers also commented extensively about how they developed multiple paths of instruction so that students of varying abilities, interests, and learning needs could experience equally appropriate ways to learn. This finding was particularly evident in the

differentiated learning materials and differentiated learning activities used in the teachers' instruction. In contrast, differentiation in China teachers' classroom was limited to tiered questioning and homework. The rich differentiation observed in the US classrooms was aligned with the emphases on heterogeneity, inclusion, and cultural diversity in US school reform. Throughout the literature about school reform, classroom instruction, and teacher professional development in the US, there is a call for teachers to adjust curriculum, materials, and activities to ensure each student has an equal and appropriate education. These cultural beliefs, directions of school reform movement, and the philosophy of individualism, which believes the welfare of the whole society is contingent on the fulfillment of individual needs, make differentiation and serving academically diverse learners in regular classrooms crucial parts of a teacher's role (Tomlinson et al. 2003). The lesser presence of differentiation in China teachers' instruction may be a result of large class size and limited instructional time. It also may relate to their Confucian belief that effort overpowers ability in determining a student's academic achievement.

Because cultures provide different tools, habits, and assumptions that significantly influence human thought and behavior (Tweed and Lehman 2002), Western and Chinese theories about the dichotomy of nature versus nurture are different. Generally, Chinese culture credits nurture over nature in human learning and achievement. Confucian philosophy on learning and achievement places primary emphasis on non-intelligence factors, such as personality traits (e.g., motivation, perseverance, and effort) and environmental factors (e.g., parental and familial support, and teacher and school instruction), rather than natural ability, as the most important prerequisites for desired performance (Chen 2001; Chen and Stevenson 1995; Rosenthal and Feldman 1991; Shi and Zha 2000). Confucius's lasting influence in history resides in his concept of "Ren," which is "a lifelong striving for any human being to become the most genuine, sincere, and humane person he or she can become" (Li 2003, p. 146). According to Confucius, the process of actualizing Ren is a process of self-cultivation and self-perfection. He taught that the goal for the individual is the development of personality until the ideal of a perfect man, a true gentleman, a sage is reached (Li 2003). Confucius believed that, within this developmental process, one's single-minded effort and consistent practice are more important than his/her innate ability to achieve success (Tweed and Lehman 2002). Ultimately, the ideal status of Ren is achievable by anyone striving for it. The China teachers influenced by Confucian thinking tend to regard the possibility to overachieve or underachieve is under individual control rather than predestined by natural ability. Research also revealed that Chinese culture and Western cultures have different attribution patterns and locus of control (Hau and Salili 1991; Salili and Hau 1994; Stevenson and Stigler 1992; Walberg 1984). People from Chinese culture tend to attribute success to effort and failure to lack of effort, whereas Westerners tend to attribute success and failure to ability or lack of ability. Gardner (1995) made the following comment regarding the phenomenon that East Asian students outscored American students on IQ tests:

> "Genetics, heredity, and measured intelligence play no role here. East Asian students learn more and score better on just about every kind of measure because they attend school for more days, work harder in school and at home after school, and have better-prepared teachers and more deeply engaged

parents who encourage and coach them each day and night. Put succinctly, Americans believe (like Herrnstein and Murray) that if you do not do well, it is because they lack talent or ability; Asians believe it is because they do not work hard enough" (p. 31).

## 5.4 Classroom management

Every observed teacher created and maintained a classroom learning environment that was safe, respectful, and conducive to student optimal learning. Their classroom management covered a wide range of practices from setting up the physical environment (especially the US teachers in this aspect) and establishing routines, preventing disruptions, and supporting intellectual risk-taking. Through effective classroom management, these teachers rarely had disruptive student behavior, thereby increasing student engagement in academic tasks. Disruptive behaviors are particularly problematic for classrooms in that they can interfere with learning, compete with instruction, create an unsafe learning environment, and make it less likely that students will achieve academic objectives (Luiselli et al. 2002). When these teachers' high expectations were communicated and received, their students made more psychological investment in learning and used more self-regulation strategies like memorization, task planning, and self-monitoring (Shernoff et al. 2003).

The teachers in China and US were observed used the physical space in their classroom differently. The physical arrangements in US teachers' classroom changed from day-to-day or week-to-week depending upon the kinds of activities in which students were engaged and what the teachers were trying to accomplish. The teachers in China had much less flexibility with classroom arrangements because of the large class size. In addition, the China teachers tended to reflect more on their demands for classroom discipline and teacher control during interviews. Differences were also found between China teachers and US teachers with respect to the teacher power and control. During the interview, China teachers used the word of "control," "power," and "authoritarian" to describe their presence in the classroom; however, at the same time, they also were student sensitive.

## 6 Conclusion

Strengthening the quality of education is about enhancing learning opportunities and results for students. While various policy initiatives may offer promises of improving education, nothing is more fundamentally important to improving schools than improving the teaching that occurs every day in classrooms (Stronge 2010). This sentiment is echoed in the United States (Darling-Hammond 2006) and in China (OECD 2011). This study, through observing classrooms of great teachers and soliciting their perceptions, can contribute to a deeper understanding about the concept of teacher effectiveness (Stronge et al. 2011). The findings of this study demonstrated that there are common aspects of practices among the award-winning teachers in both China and the United States. These aspects include (a) using a variety of instructional strategies to encourage student involvement in activities and lessons; (b) planning, yet remaining flexible and spontaneous; (c) understanding students'

learning; (d) thinking about and reflecting on teaching; (e) monitoring and assessing student progress; and (e) creating a positive classroom learning climate. The difference between teachers in China and United States teachers in their practices and beliefs illuminated what they can learn from each other. China teachers anticipated students' misconceptions during the planning process, used more whole group instructional activities as well as lecture, and faced more challenges with differentiation and authentic learning experiences. United States teachers experienced more autonomy in planning, used a mixture of whole-group and teacher–student interactions, provided more opportunities for student-centered learning opportunities, and incorporated assessment of student learning in planning and instruction.

The US teachers could grow through collaborative professional development models like those their China peers use. Currently, the United States educational community is attempting to improve the long-standing problem by engaging teachers in collaborative planning and studying student work as part of school reform initiatives (Cobb et al. 2003; Elmore and Burney 1999). The Instruction Preparation Group and Lesson Research Group used by the China teachers may offer two potential models (Kennedy and Lee 2008).

On the other hand, the China teachers can learn from their US peers about providing students with more opportunities to explore and develop their own views. Research found that Chinese learners are not passive and teacher-dependent rote-learners. Within pertinent learning environments, they embrace and welcome new pedagogical goals and approaches. They were also found to value and cherish learning experiences that involved constructivist elements such as authentic learning, problem-based learning, discourse involving diverse viewpoints, and collaborative inquiry (Chan and Rao 2010). The traditional education system in China is often criticized for its emphasis on conformity, being highly examination-oriented, discouraging students' creativity development, authoritarian teachers for whom the rigid and centralized curriculum where that is a more important agenda than catering to individual differences among students (Cheng 2004). Preus (2007) observed that national education reform in China since 2001 is moving its educational system toward decentralization of elementary and secondary education. China is striving to establish a "quality-oriented" rather than a "test-oriented" system (Preus 2007, p. 115).

Chinese educational reforms at national, provincial, and local levels are attempting to decrease the density of curriculum, encourage teachers to adopt more student-centered inquiry and problem-solving activities, empower teachers with more autonomy, and encourage teachers to be more innovative and flexible about curriculum to better meet the needs of the students. Contrastingly, the reform in the United States is driving its educational system toward centralization of elementary and secondary education. It is increasingly more test-oriented. Furthermore, professional development is marked by non-collaborative organizational structures. Similarly, Fang and Gopinathan (2009) also noted that educational reformers in the West are oriented toward better structured subject content, while the East is looking at how to involve students more actively in learning and how to relate learning to real work and students' real life. These opposite trends of educational reform policies and practices highlighted that the experience in China and US educational systems can be a potent source of learning for each other. As a UNESCO report articulated, different countries

can come together to explore best practices and "the problems others face, the objectives they seek, the routes they try, the results they arrive at and the unintended results they produce are worth analysis" (Schwille et al. 2007, p. 10). While the cultural contexts and educational systems certainly play a role in the differences between these country's educational outcomes, it is the teachers, in both countries, who directly impact student learning.

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